

3.9.9 Typical School Building (1)

	<u>Pre-1980</u>	<u>Post-1980</u>
Stock Floor Area (billion SF)	7.482	0.595
Floor-Area Weighted Averages		
Building Area (thousand SF)	22 - 47	16 - 26
Floors	2	2
Shell		
Percent Glass	27	18
Window R-Value	1.39 - 1.6	1.67 - 1.71
Window Shading Coefficient	0.80 - 0.83	0.71 - 0.73
Wall R-Value	2.7 - 3.4	5.3 - 5.7
Roof R-Value	10.1 - 10.9	12.6 - 13.3
Wall Material	masonry	masonry
Roof Material	built-up	built-up
Occupancy		
Average Occupancy (SF/person)	105	105
Weekday Hours (hrs/day)	8	8
Weekend Hours (hrs/day)	2	2
Equipment		
Average Power Density (W/SF)	0.8	0.8
Full Equipment Hours (hrs/year)	1,136	1,136
Lighting		
Average Power Density (W/SF)	1.8	1.7
Full Lighting Hours (hrs/year)	2,436	2,436
System and Plant		
System and Distribution Type	6 (Classrooms, Gym, Auditorium, Dining, Kitchen) Unit Ventilators	1 Central System Packaged Multi-Zone w/ Economizer
Heating Plant	Gas Boiler	Gas Boiler
Cooling Plant	Hermetic Centrifugal Chiller	Hermetic Centrifugal Chiller
Service Hot Water	Gas Boiler	Gas Boiler

Note(s): 1) The prototypes are synthetic buildings compiled from statistical data from building surveys or conclusions from previous studies. The physical characteristics, system characteristics, and usage patterns are based upon various surveys, studies, engineering estimates, or

Source(s): LBNL, Commercial Heating and Cooling Loads Component Analysis, June 1998, Table 15, p. 36; and D&R International for hours of occupancy.